

10	19	28	37	46	55
5' TGAT GCT CTG GGC TGT CTT CAC ACT TCA TTT GGG TTT CCT GCT GTC TCT GAG CTC					
64	73	82	91	100	109
TAC AGG GGA ATG GGG TAG AGA TGG GAG CCA CCT TGG GTG GAG GGT GGG GAA GGT					
118	127	136	145	154	163
ATG TTC TGC CCA CCA CAG GTG TCA TGC TCA CTC AGC CTG ATG CCC AGG CTG CCA					
M F C P P Q V S C S L S M P R L P					
172	181	190	199	208	217
AGT ATA AGG CAT TGG CAG GGG CCC AGC CAC CCT GGG TTC CTG GGT CCC CTA TTC					
S I R H W Q G P S H P G F L G P L F					
226	235	244	253	262	271
CCC ATC TGC TCC CTG CAG TGG CCC CAT GGG TTC TCT GCC ATC TTC CCA GGC CTG					
P I C S L Q W P H G F S A I F P G L					
280	289	298	307	316	325
CTG GAT GTG TAT GGA TTT GAA TCA TTT CCT GAC AAC AGT CTG GAA CAG TTG TGC					
L D V Y G F E S F P D N S L E Q L C					
334	343	352	361	370	379
ATC AAC TAC GCC AAT GAG AAG CTG CAG CAC CAT TTT GTG GCT CAC TAC CTA AGG					
I N Y A N E K L Q Q H F V A H Y L R					

FIGURE 1A

388	GCC	CAG	GAG	GAA	TAC	GCA	GTT	GAG	GGC	CTG	GAG	TGG	TCA	TTC	ATC	AAC	TAC
A	Q	Q	E	E	Y	A	V	E	G	L	E	W	S	F	I	N	Y
442	CAG	GAC	AAC	CAG	CCC	TGT	T ^T G	GAT	CTC	ATT	GAG	GGA	AGC	CCC	ATC	AGC	ATC
Q	D	N	Q	P	C	L	D	L	I	E	G	S	P	I	S	T	C
496	TCC	CTC	ATA	AAT	GAG	GAA	TGC	CGC	CTC	AAT	CGA	CCC	AGC	GCA	CAG	CTC	541
S	L	I	N	E	E	C	R	L	N	R	P	S	S	A	R	Q	L
550	CAG	ACA	CGC	ATT	GAG	ACT	GCC	CTG	GCA	GGC	AGC	CCC	TGC	CTG	GGC	CAC	AAT
Q	T	R	I	E	T	A	L	A	G	S	P	C	L	G	H	N	K
604	CTC	AGC	CGG	GAG	CCC	AGC	TTC	ATT	GTG	GTG	CAT	TAT	GGC	GGG	CCT	GTG	CGG
L	S	R	E	P	S	F	I	V	Y	H	Y	A	G	P	V	R	Y
658	CAC	ACA	GCA	GGC	CTG	GTG	GAG	AAG	AAC	AAG	GAC	CCT	ATC	CCA	CCT	GAG	CTG
H	T	A	G	L	V	E	K	N	K	D	P	I	P	P	E	L	T
712	AGG	CTC	CAG	CAA	TCC	CAG	GAC	CCC	CTG	CTG	ATG	GGG	CTG	TTT	CCT	ACT	AAC
R	L	L	Q	Q	S	Q	D	P	L	L	M	G	L	F	P	T	N

FIGURE 1B

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CCC	AAA	GAG	AAG	ACC	CAG	GAG	GAA	CCC	CCT	GGC	CAG	AGC	AGG	802
P	K	E	K	T	Q	E	E	P	P	G	Q	S	R	CCT
														GTG
														TG
														L
820		829		838		847		856		856		856		865
T	V	S	K	F	K	A	S	L	E	Q	L	L	Q	V
														L
														H
874		883		892		901		910		910		910		919
S	T	T	P	H	Y	I	R	C	I	K	P	N	S	Q
														A
928		937		946		955		964		964		964		973
CAG	ACC	TTT	CTC	CAA	GAG	GAG	GTC	CTG	AGC	CAG	CTG	GAG	GCC	TGT
Q	T	F	L	Q	E	E	V	L	S	Q	L	E	A	CTC
														GTG
														L
														V
982		991		1000		1009		1018		1018		1018		1027
GAG	ACC	ATC	CAT	ATC	AGT	GCT	GCT	GGC	TTC	CCC	ATC	CGG	GTC	TCT
E	T	T	H	I	S	A	A	G	F	P	I	R	V	CAC
														CGA
														AAC
1036		1045		1054		1063		1072		1072		1072		1081
TTT	GTA	GAA	CGA	TAC	AAG	TTA	CTA	AGA	AGG	CTT	CAT	CCT	TGC	ACA
F	V	E	R	Y	K	L	L	R	R	H	P	C	T	TCC
														TCT
														GGC
1090		1099		1108		1117		1126		1126		1126		1135
CCC	GAC	AGC	CCA	TAT	CCT	GCC	AAA	GGG	CTC	CCT	GAA	TGG	TGT	CCA
P	D	S	P	V	P	A	K	G	L	P	E	W	C	CAC
														AGC
														GAG

FIGURE 1C

1144	GAA	GCC	ACG	CTT	GAA	CCT	CTC	ATC	CAG	GAC	ATT	CTC	CAC	ACT	CTG	CCG	GTC	CTA
E	A	T	L	E	P	L	I	Q	D	I	L	H	T	L	P	V	L	
1153																		
1162																		
1171																		
1180																		
1189																		
1198	ACT	CAG	GCA	GCA	GCC	ATA	ACT	GGT	GAC	TCG	GCT	GAG	GCC	ATG	CCA	GCC	CCC	ATG
T	Q	A	A	A	A	I	T	G	D	S	A	E	A	M	P	A	P	M
1207																		
1216																		
1225																		
1234																		
1243																		
1252	CAC	TGT	GGC	AGG	ACC	AAG	GTG	TTC	ATG	ACT	GAC	TCT	ATG	CTG	GAG	CTT	CTG	GAA
H	C	G	R	T	K	V	F	M	T	D	S	M	L	E	L	L	L	E
1261																		
1270																		
1279																		
1288																		
1297																		
1306	TGT	GGG	CGT	GCC	CGG	CGG	GTG	CTG	GAG	TGT	GCC	CGC	TGC	ATC	CAG	GGT	GGC	TGG
C	G	R	A	R	V	L	E	Q	C	A	R	C	I	Q	G	G	G	W
1315																		
1324																		
1333																		
1342																		
1351																		
1360	AGG	CGA	CAC	CGG	CAC	CGA	GAG	CAG	CGG	CAG	TGG	CGG	GCC	GTC	ATG	CTC	ATC	
R	R	H	R	R	E	R	Q	E	R	Q	W	R	A	V	M	L	I	
1369																		
1378																		
1387																		
1396																		
1405																		
1414	CAG	GCA	GCC	ATT	CGT	TCC	TGG	TTA	ACT	CGG	AAA	CAC	ATC	CAG	AGG	CTG	CAT	GCA
Q	A	A	I	R	S	W	L	T	R	K	H	I	Q	R	L	H	A	
1423																		
1432																		
1441																		
1450																		
1459																		

FIGURE 1D

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1468	1477	1486	1495	1504	1513												
GCT	GCA	GTC	ATC	AAG	CGT	GCA	TGG	CAG	AAG	ATC	AGA	ATG	GCC	TGC			
A	A	T	V	I	K	R	A	W	Q	K	W	R	I	R	M	A	C
1522	1531	1540	1549	1558	1567												
CTT	GCT	GCT	AAA	GAG	CTG	GAT	GGT	GTG	GAA	GAA	AAA	CAC	TTC	TCT	CAA	GCT	CCC
L	A	A	K	E	L	D	G	V	E	E	K	H	F	S	Q	A	P
1576	1585	1594	1603	1612	1621												
TGT	TCC	CTG	AGC	ACC	TCG	CCG	CTG	CAG	ACC	AGG	CTC	CTG	GAG	GCA	ATA	ATC	CGC
C	S	L	S	T	S	P	L	Q	T	R	L	L	E	A	I	I	R
1630	1639	1648	1657	1666	1675												
CTC	TGG	CCC	CTG	GGA	CTG	GTC	CTG	GCC	AAT	ACG	GCT	ATG	GGT	GTA	GGC	AGC	TTC
L	W	P	L	G	L	V	L	A	N	T	A	M	G	V	G	S	F
1684	1693	1702	1711	1720	1729												
CAG	AGG	AAA	TTA	GTG	GTC	TGG	GCT	GTC	CTC	CAG	CTC	CCC	AGG	GGC	AGC	CCC	AGT
Q	R	K	L	V	V	W	A	C	L	Q	L	P	R	G	S	P	S
1738	1747	1756	1765	1774	1783												
AGC	TAC	ACT	GTC	CAG	ACA	GCA	CAA	GAC	CAG	GCT	GGT	GTC	ACG	TCC	ATC	CGA	GCG
S	Y	T	V	Q	T	A	Q	D	Q	A	G	V	T	S	I	R	A
1792	1801	1810	1819	1828	1837												
CTG	CCT	CAG	GGG	TCG	ATA	AAG	TTT	CAC	TGC	AGA	AAG	TCT	CCA	CTG	CGG	TAT	GCT
L	P	Q	G	S	I	K	F	H	C	R	K	S	P	L	R	Y	A

FIGURE 1E

1846	1855	1864	1873	1882	1891
GAC ATC TGC CCT GAA CCT TCA CCC TAC AGC ATT ACA GGC TTT AAT CAG ATT CTG					
D I C P E S P Y S I T G F N Q I L					
1900	1909	1918	1927	1936	1945
CTG GAA AGA CAC AGG CTG ATC CAC GTG ACC TCT TCT GCC TTC ACT GGG CTG GGG					
L E R H R L I H V T S S A F T G L G					
1954	1963	1972	1981	1990	1999
TGA TCC TTG GTG CCT TTG TTT CCA CAA GGC CTT TTC CTG CCC CCT GCC TTG CCA					
2008	2017	2026	2035	2044	2053
AAG ACA TTT AAT CAG CAC ACA GCT GCC AGA CTA TTC CCA CAG TGC TCC AAA TGC					
2062	2071	2080	2089	2098	2107
ACA TGA ACA ACA GTG ACG GGC TCA GCT TCG ACC CAG AGC CCC GTG CCC AGT GCG					

T 3,

FIGURE 1F

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1	M	M	M	FCPPQVSC	-	-	-	-	1929760
1	M	M	M	QIH-RAC	-	-	-	-	g1279777
1	DRVVD	DDSPY	GQS	LLNDRPSVDD	VND	-	-	-	g2444174
10	-	SLSLM	PRLPSI	-	-	-	RHWQGP	-	1929760
15	-	-	PNRKI	GSIQYGR	RHSWQGP	VV	-	-	g1279777
31	DDADA	DVN	PSVSAQGSV	LGSGNKG	WGDTAS	-	-	-	g2444174
27	-	-	-	-	-	-	-	-	1929760
39	PAALK	QVL	IKGVRI	WHRHPTL	VWIGATE	EE	-	-	g1279777
61	YIAK	-	KKLQ	QSWFQTSDGN	W	-	ELAK	-	g2444174
27	-	-	-	-	-	-	-	-	1929760
69	DTFQT	RNVRI	IRLED	DTDEVYAI	KSLDQLP	-	g1279777	-	g2444174
83	ILSITG	SES	SLMSLSEE	KVLS	SSDSL	-	LP	-	g2444174
27	-	SHPGFLG	-	-	-	-	-	-	1929760
99	FLRN	P	AFLL	VGKDDL	TLLSYLHEPAVLHN	LQ	g1279777	-	g2444174
111	-	ANP	ETL	DGVDDLMQ	DLNEPSVLYNL	Q	-	-	g2444174
34	-	-	-	-	-	-	-	-	1929760
129	VRFVK	GSS	ITYCGI	VLAINPYADCSHI	Y	-	g1279777	-	g2444174
139	YRYDR	DM	TYSKAGP	VLAINTPFFK	-	IPLY	-	-	g2444174

FIGURE 2A

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FIGURE 2B

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FIGURE 2C

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82	Q H F V A H Y L R A Q Q E E Y A V E G L E W S F I N Y Q D N	1929760
519	Q [Q F N Q H V F K L E Q E E Y I R E E T E W V R V D F H D N	g1279777
511	Q [Q F N R H L F K L E Q E E Y I Q D G I D W A K V D F E D N	g2444174
112	Q P C L D L I E G S P I S I C S L I N E E C R - L N R P S S	1929760
549	Q P A I D L I E G - P V G M I N L D E Q C K R L N G S D A	g1279777
541	Q D C L N L F E K K P L G L M T L L D E E S T F P N G T D M	g2444174
141	A R Q L Q T R I E T A I A G S P C L G H N K L S R E P S F I	1929760
578	D W L S Q L Q N S T E L K R N P Q L A F P K V - R S N D F I	g1279777
571	T F A T K L K Q - H L K T N S - C F R G E - R G K A F T	g2444174
171	V V H Y A G P V R Y H T A G L V E K N K D P I P P E L T R L	1929760
607	V [R H F A A D V T Y S T D G F V E K N R D A I G E Q L L D V	g1279777
596	V [H H Y S G E V T Y D T S G F L E K N R D L L H L D S I Q L	g2444174
201	L Q Q S Q D P L L M G L F P T N P K E K T Q E E P - - -	1929760
637	V V A S K F P F I R T V I G S T A P T S V S S S S S - - S	g1279777
626	L S S C T C E L P Q A F A S N M L S L S E K P V P G P L H K	g2444174
226	P G Q S R A P P V L T V V S K F K A S L E Q L L Q V L H S T T	1929760
665	T P G K R T I K K T V A S Q F R D S L K E L M S V L C S T R	g1279777
656	S [G G A D S Q K L S V V T K F K G Q L M Q R L E S T T	g2444174

FIGURE 2D

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256	P H Y I R C I K P N S Q G Q A Q T F L Q E E V L S Q L E A C	1929760
695	P H Y V R C I K P N D S K I S F D E E P K R A I Q Q L R A C	91279777
686	P H F I R C I K P N N S Q S P G I Y H Q G L V L Q Q L R C C	g2444174
286	G L V E T I H I S A A G F P I R V S H R N F V E R Y K L L R	1929760
725	G V L E T V R I S A A G F P S R Y P Y E E F A R R Y R V I Y	91279777
716	G V L E V V R I S R S G F P T R M S H Q K F A R R Y G F L L	g2444174
316	R L H - - - - - - - - - - - - - - - - - - - - - - - - - - -	
755	T K E A A L W R D K P K Q F A E L A C Q Q C L E E G K Y A V	1929760
746	L E H V A S Q D P L S V S V A I L H Q F D I L P E - M Y Q I	g1279777
332	K G L P E W C P H S E E A T L E P L I Q D I L H T L P V L T	1929760
785	G K T K I F L R T G Q V A V L E R V R I L D T L A A A A T V I	g1279777
775	G Y T K L F F R T G Q I G K L E D T R N R T L N G I L R V -	g2444174
362	Q A - - - A A I T G D S A E A M P A P M - - - - - - - - - -	1929760
815	Q K M W K G F L A R R K Y E T M R R S L L I V Q A S L K A F	g1279777
804	Q S C F R G H K A R Q Y M K E L K R G I F N L Q A F A R G E	g2444174
379	- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	1929760
845	L A F R R I K Y L - Q M H R A V I V M Q S A V R G Y L E R R	g1279777
834	K T R K E F A I L V H R H R A A V H I Q K H I K A K I S K K	g2444174

FIGURE 2E

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388	- - - - -	T D S M L E L L E C G G R A R V L	- - - - -	1929760
874	K Y E Q I R D S I I G I Q A M F K A N	R V R R Y V E K L R Y	g1279777	
864	R F E D V H G A T I T L Q A V	- - - - -	- - - - -	g2444174
404	E Q C A R C I Q G G W R R H	- R H R E Q E R Q W R A V M L I	1929760	
904	E K S A I T I Q A A W R G Y L A R R E Q	Q I A N R K K V V M V	g1279777	
879	- - - - -	- - - - -	- - - - -	g2444174
433	Q A A I R S W L T R K	- - - - -	H I Q R L H	1929760
934	Q C A V R K W L A K R R L R E L K I E A R S V G H	Q K L N	g1279777	
879	- - - I R G W L V R C S G D I A L	- - - - -	- - - - -	g2444174
450	A A - - - - -	- - - - -	- - - - -	1929760
964	T G L E N K I I E L Q M R L D I A N A R T K E E A E K F A T	- - - - -	g1279777	
894	- - - - -	- - - - -	- - - - -	g2444174
452	- - - - -	- - - - -	- - - - -	1929760
994	A S K N L Q K T K A D L A M M E A E R L T L E A R N R V E	- - - - -	g1279777	
907	- - - - -	- - - - -	- - - - -	g2444174
452	- - - - -	- - - - -	- - - - -	1929760
1024	V L Q E E V E R L E T E C D L K E A Q R G G M E T K M V E L	- - - - -	g1279777	
921	I L K A E A G L R E	- - - - -	K E E E N D I L H Q R L Q Q Y	g2444174

FIGURE 2F

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452	- - - - -	- - - - -	- - - - -	ATVI	- - - - -	- - - - -	- - - - -	1929760
1054	Q S R L D Q F Q M Q S E S G	Q T I V E L T E Q L E K A K A D	g1279777					
946	E N R W S E Y E L				- - - - -	K M K S M		g2444174
456	K R A W Q K W R I R M	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1929760	
1084	R V L W D E E R Q R M	E A L N T E R S A R N A L D A E M A	g1279777					
960	E E V W Q K Q M R S L Q S S L S I	- - - A K K S L	- - -	- - -	- - -	- - -	g2444174	
467	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1929760	
1114	A M R E Q L M K N V D L F E S S T F Q K R P S Q K K N R D D	g1279777						
982	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174	
467	- A C - - - - -	- - - - -	- - - - -	L A A K E L D G V E E K	- -	1929760		
1144	D S C S R T T S N L S Q L T G S F T A E T I N G V H S T S R	g1279777						
982	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174	
481	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1929760	
1174	G S P E V L L D N M A S T F E Q L R M I N D L R Q R N E H C	g1279777						
982	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174	
481	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1929760	
1204	Q R E T R M K A I I E A S T L I E T L D K K T S L K A F E	g1279777						
982	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174	

FIGURE 2G

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FIGURE 2H

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496 - - - - -
 1414 A E A R A Q L R G Y S G P L G L E N A S D E E I T R L E A F 1929760
 1063 - - - - - N P D H E L R R L K Q - g1279777 g2444174

496 - - - - -
 1444 E K G S I K H S G F L E V Y N V P E F A R I I V C E L K P T 1929760
 1074 - - - - - g1279777 g2444174

496 - **T R I L L** - - - - -
 1474 **L A R L L** T K N L P A Y L L V A A F R N H D E K R D E T A L 1929760
 1074 - - - - - g1279777 g2444174

500 - - - - -
 1504 T G L F S S V H L V L K D T I S R S H D L D L L S **L W P L G** 1929760
 1074 - - M F E G - - - - - g1279777 g2444174

510 **L** - - - - -
 1534 **L** W R L F N L L R Q Y S G E D S Q P E W H V A N T E T Q N S 1929760
 1078 - W K - - - K D Y T A - - - - - g1279777 g2444174

511 - - - - -
 1564 Y R F K A Y D V A P I R D Q L K L R I E C Y T S L M K K A 1929760
 1085 - - - - - R L R - - - - - g1279777 g2444174

FIGURE 2I

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511	- - -	V L A N T A M	- - - - -	- - - - -	- - - - -	- - - - -	1929760
1594	I E H V L	S P K I V P G I L Q H E S S S D L M T A G Q E R R	g1279777	g1279777	g1279777	g1279777	g1279777
1088	- - - - -	E T K V I L N K L G H E D	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
518	- - - - -	G V G S F Q R K	- - - - -	- - - - -	- - - - -	- - - - -	1929760
1624	D R N S G S V E S Q R K	S L D D L L Q F M E I V H T K L T T	g1279777	g1279777	g1279777	g1279777	g1279777
1101	- - - - -	G D G E K G K K	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
526	- - - - -	L V V W A C	- L Q L P	- - - - -	- - - - -	- - - - -	1929760
1654	Y G G D D I V V K Q V I G Q M A R W M C A L N Y M M F R	g1279777	g1279777	g1279777	g1279777	g1279777	g1279777
1109	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
537	G S P S S Y	- T V Q T A Q D Q A G V T S	- - - - -	- - - - -	- - - - -	- - - - -	1929760
1684	R E L C N F E K A I Q I K H N V T Q I Q N W L N A K G L S D	g1279777	g1279777	g1279777	g1279777	g1279777	g1279777
1111	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
556	- - - - -	I R A L P Q G S I K F H C R K S P L R Y A D I C P E	1929760	1929760	1929760	1929760	1929760
1714	C R D H F E P L V Q A C H L L Q S R K D P S N L D T L C G E	g1279777	g1279777	g1279777	g1279777	g1279777	g1279777
1112	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
582	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1929760
1744	M T S R L K P R Q V V A I L Q H Y D P S D E M E D G L S P E	g1279777	g1279777	g1279777	g1279777	g1279777	g1279777
1112	- - G R L N S S - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174

FIGURE 2J

594	<u>L</u> <u>L</u>	- - - - -	- - - - -	- - - - -	<u>E</u> <u>R</u>	<u>H</u> <u>R</u>	<u>L</u> <u>I</u>	<u>H</u> <u>V</u>	<u>T</u>	1929760
1774	<u>F</u> <u>L</u>	V Q I Q K K	N E R A I A N N	D P I E D K D K	<u>L</u> <u>L</u>	<u>I</u> <u>M</u>	<u>L</u> <u>G</u>			g1279777
1118	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
605	<u>S</u> <u>S</u>	- - <u>S</u> <u>A</u> <u>F</u> <u>T</u> <u>G</u>	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1929760
1804	<u>T</u> <u>Y</u> <u>L</u>	<u>P</u> <u>P</u> <u>F</u>	<u>D</u> <u>T</u> <u>Q</u>	<u>P</u> <u>F</u> <u>S</u>	<u>S</u> <u>D</u> <u>F</u>	<u>P</u> <u>L</u> <u>E</u>	<u>T</u> <u>L</u> <u>S</u>	<u>S</u> <u>C</u> <u>L</u>	<u>H</u> <u>M</u> <u>Q</u>	g1279777
1118	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	g2444174
611	- - - - -	- <u>L</u> <u>G</u>								1929760
1834	<u>S</u> <u>V</u> <u>C</u>	<u>R</u> <u>L</u> <u>V</u>								g1279777
1118	- - - R V N									g2444174